

## SYSTEM AND METHOD FOR VERIFYING AND CONTROLLING THE PERFORMANCE OF A MASKLESS LITHOGRAPHY TOOL

### Abstract

A maskless lithography tool that includes a reference reticle having reference features for tuning and calibrating the tool. The reference reticle is illuminated by a illumination source to form a reference image of the reference features. A signal is applied to an active contrast device of the tool to form a die pattern that includes the reference features. The contrast device is illuminated by the illumination source to form a die image of reference features. An image scanner captures the reference image and the die image. A comparison of the images is used to make tuning and calibrating adjustments to the tool. The reference reticle can be used to debug and characterize the tool even when the operation of the contrast device is not completely understood because the reference features of the reference reticle are independent of the tool's contrast device and pattern generating data stream.